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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,350	07/30/2001	Ralph R. Sawtell	00-1684	7564

8840 7590 11/28/2003
ALCOA INC
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EXAMINER

MORILLO, JANEL A

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 11/28/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

cb12

Office Action Summary	Application No. 09/916,350	Applicant(s) SAWTELL ET AL.	
	Examiner Janelle Combs-Morillo	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>9</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the IDS filed on March 4, 2003, PROSECUTION IS HEREBY REOPENED.

See the new grounds of rejection over JP61-227146 A set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Drawings

2. The corrected or substitute drawings were received on January 31, 2003. However, Fig. 1 and Fig. 2 were damaged (the sheets adhered together). Fig. 3 is undamaged. The examiner requests additional copies of Fig. 1 and Fig. 2.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1742

4. Claims 1-7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by “Metals Handbook: Desk Edition” pp 426-427, 449-450.

“Metals Handbook: Desk Edition” teaches that alloy 2214 entirely overlaps the instant alloy composition. See Table below for overlapping alloying ranges. “Metals Handbook: Desk Edition” at Table 1 footnote g) teaches that said alloy can be extruded or forged.

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Be	B
JP'146	0.82	0.10	4.4	0.84	0.45	0.00	0.00	0.03		0.002
AA 2214	0.5-1.2	0.3 max.	3.9-5.0	0.40-1.2	0.20-0.8	0.10 max.	0.25 max.			
present invention (claim 1)	0.65-0.9	0.15 max.	4.0-4.7	0.6-0.9	0.35-0.55					
claim 2	one or more of Cr, Zn, Ti, Be in the following ranges-					0.1 max.	0.25 max.	0.15 max.	0.001 max.	
claim 3	0.7-0.85									
claim 4			4.1-4.5							
claim 5				0.65-0.85						
claim 6		0.14 max.								

Concerning the property of “reduced susceptibility to high temperature oxidation”, because AA 2214 overlaps the presently claimed alloying ranges “with sufficient specificity” (see MPEP 2131.03), it is held that “Metals Handbook: Desk Edition” anticipates the instant claims, and said property is held to be inherent.

Concerning claim 11, the examiner asserts that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, if the prior art teaches the identical chemical

Art Unit: 1742

structure, the property applicant discloses and/or claims (such as fracture toughness) is necessarily present.

5. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 61-227146 A (JP'146).

As stated in the Table above, JP'146 teaches an Al-Cu composition that falls within the instant alloying ranges (claims 1-6).

Concerning the instant transitional phrase "consisting essentially of", the examiner points out that said transitional phrase limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). Applicant has not shown that the addition of 0.002% B would materially affect the basic and novel characteristics of the claimed invention, and therefore the rejection is deemed proper.

Concerning the property of "reduced susceptibility to high temperature oxidation", because JP'146 teaches an example within the presently claimed alloying ranges, then said property is held to be inherent.

With regard to claim 2, JP'146 teaches 0.03% Ti, and therefore meets the limitation of "one or more of" said group of elements.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 1742

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Metals Handbook: Desk Edition” pp 426-427, 449-450 alone or in view of Karabin (US 5,879,475 A).

As stated above, AA2214 overlaps the presently claimed composition ranges. “Metals Handbook: Desk Edition” does not teach that said alloy is suitable for vehicle wheels (instant claim 8), aerospace wheels (instant claim 9, 12-19), aerospace brake components (instant claim 10, 20-27). However, “Metals Handbook: Desk Edition” does teach that said alloy can be forged (Table 1 footnote g). Additionally, “Metals Handbook: Desk Edition” teaches that 2xxx series alloys in general are often forged, and that AA2014 is commonly used in the aerospace industry. It would have been within the level of one of ordinary skill in the art to use 2214 as a forged component suitable for vehicle wheels, aerospace wheels, aerospace brake components, because 2214 is a known variant of 2014 (but with lower Fe impurity).

Alternatively, Karabin teaches that substantially similar Al-Cu-Mg-Mn alloys are typically forged into structural components including aircraft wheels and various brake components (abstract). It would have been obvious to one of ordinary skill in the art to use the 2214 alloy taught by “Metals Handbook: Desk Edition” for forged aircraft wheels and various brake components because Karabin teaches that it is conventional to use similar 2xxx series alloys for said applications.

Concerning claims 11, 19, and 26, as stated above, the examiner asserts that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ

Art Unit: 1742

430, 433 (CCPA 1977). Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims (such as fracture toughness) are necessarily present.

Response to Amendment/Arguments

8. In the appeal brief filed on September 25, 2003, applicant submitted various arguments traversing the rejections of record.

Applicant's argument that applicant's alloy is distinct from, and not anticipated by, other 2014 family alloys (arguments page 6, 7, etc.) has not been found persuasive. The examiner agrees that applicant has clearly set forth unexpected results (in the instant specification) with regard to 2014. However, the closest prior art is considered to be 2214, not 2014.

Applicant on page 6 of the arguments refers to paragraph 00015 of the instant specification that vaguely mentions "a series of experiments involving variations of alloy 2014" and applicant argues that "It is clear from the specification that the improved properties of Applicants' composition are distinguished not only from the 2014 alloy, but also from the other known variation of 2014, namely AA2214". The specific variations of alloy 2014 have not clearly been identified, and therefore applicant has not shown conclusive evidence that the instant alloy shows unexpected results with regard to AA2214.

Applicant's argument that the present invention is allowable over the prior art of record because Metals Handbook "does not teach or suggest an alloy having reduced susceptibility to high temperature oxidation and, moreover, does not teach or suggest a purer alloy than AA2214" (arguments page 4 lines 10-12), has not been found persuasive. AA2214 has a maximum Fe content of 0.3wt%, which entirely overlaps ("with sufficient specificity", see MPEP 2131.03) the

Art Unit: 1742

presently claimed maximum of “up to about 0.15% wt% iron”. The property of reduced susceptibility to high temperature oxidation is held to be inherent in the AA2214 alloy composition (as stated above), see MPEP 2112. The examiner acknowledges that there are alloys that are close in composition (arguments page 4) but are distinct with respect to properties. However, applicant has not clearly shown that the substantially overlapping alloy AA2214 is distinct from the instant invention.

Applicant argues that the Karabin reference alone, or in combination with Metals Handbook still cannot be said to teach or make obvious the alloy of Applicants’ invention (arguments page 6-7). Yet Karabin is used to teach that *similar* Al-Cu-Mg-Mn alloys are typically forged into aircraft wheels and various brake components (not for the alloy composition). The Metals Handbook, which teaches an overlapping alloy composition, and Karabin, which teaches that *similar* Al-Cu-Mg-Mn alloys are typically forged into aircraft wheels and various brake components, are combinable for the reasons set forth above.

9. The examiner points out that claims 7-27 are not rejected under JP 61-227146 because JP’ 146 is drawn to a casting alloy (not a wrought alloy) and would not be expected (by one of ordinary skill in the art) to be “suitable for manufacturing into a forged part” (claim 7), or “a forged aircraft wheel” (claim 12), or “ a forged vehicular brake component” (claim 20), substantially as presently claimed.

Art Unit: 1742


Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs- Morillo whose telephone number is (703) 308-4757. The examiner can normally be reached Monday through Friday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (703) 308-1146. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

GEORGE WYSZOMIERSKI
PRIMARY EXAMINER

jcm 

November 25, 2003